Phosphatonin-Related Gene Inventors: Schiavi et al. Filed: 07/19/01 Attorney: Carol M. Gruppi (650) 849-4902 Our Docket No. 19442-7201

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Sheet 1 of 2

SEQ ID NO 1 Human FRP-4 cDNA

AGCGGCCGC TGAATTCTAG GGCGGGTTCG CGCCCCGAAG GCTGAGAGCT GGCGCTGCTC 60 GTGCCCTGTG TGCCAGACGG CGGAGCTCCG CGGCCGGACC CCGCGGCCCC GCTTTGCTGC 120 CGACTGGAGT TTGGGGGAAG AAACTCTCCT GCGCCCCAGA AGATTTCTTC CTCGGCGAAG 180 GGACAGCGAA AGATGAGGGT GGCAGGAAGA GAAGGCGCTT TCTGTCTGCC GGGGTCGCAG 240 CGCGAGAGGG CAGTGCCATG TTCCTCTCCA TCCTAGTGGC GCTGTGCCTG TGGCTGCACC 300 TGGCGCTGGG CGTGCGCGGC GCGCCCTGCG AGGCGGTGCG CATCCCTATG TGCCGGCACA 360 TGCCTGGAA CATCACGCGG ATGCCCAACC ACCTGCACCA CAGCACGCAG GAGAACGCCA 420 TCCTGGCCAT CGAGCAGTAC GAGGAGCTGG TGGACGTGAA CTGCAGCGCC GTGCTGCGCT 480 TCTTCTTCTG TGCCATGTAC GCGCCCATTT GCACCCTGGA GTTCCTGCAC GACCCTATCA 540 AGCCGTGCAA GTCGGTGTGC CAACGCGCGC GCGACGACTG CGAGCCCCTC ATGAAGATGT 600 ACAACCACAG CTGGCCCGAA AGCCTGGCCT GCGACGAGCT GCCTGTCTAT GACCGTGGCG 660 TGTGCATTTC GCCTGAAGCC ATCGTCACGG ACCTCCCGGA GGATGTTAAG TGGATAGACA 720 TCACACCAGA CATGATGGTA CAGGAAAGGC CTCTTGATGT TGACTGTAAA CGCCTAAGCC 780 CCGATCGGTG CAAGTGTAAA AAGGTGAAGC CAACTTTGGC AACGTATCTC AGCAAAAACT 840 ACAGCTATGT TATTCATGCC AAAATAAAAG CTGTGCAGAG GAGTGGCTGC AATGAGGTCA 900 CAACGGTGGT GGATGTAAAA GAGATCTTCA AGTCCTCATC ACCCATCCCT CGAACTCAAG 960 TCCCGCTCAT TACAAATTCT TCTTGCCAGT GTCCACACAT CCTGCCCCAT CAAGATGTTC 1020 TCATCATGTG TTACGAGTGG CGTTCAAGGA TGATGCTTCT TGAAAATTGC TTAGTTGAAA 1080 AATGGAGAGA TCAGCTTAGT AAAAGATCCA TACAGTGGGA AGAGAGGCTG CAGGAACAGC 1140 GGAGAACAGT TCAGGACAAG AAGAAAACAG CCGGGCGCAC CAGTCGTAGT AATCCCCCCA 1200 AACCAAAGGG AAAGCCTCCT GCTCCCAAAC CAGCCAGTCC CAAGAAGAAC ATTAAAACTA 1260 GGAGTGCCCA GAAGAGAACA AACCCGAAAA GAGTGTGAGC TAACTAGTTT CCAAAGCGGA 1320 GACTTCCGAC TTCCTTACAG GATGAGGCTG GGCATTGCCT GGGACAGCCT ATGTAAGGCC 1380 ATGTGCCCCT TGCCCTAACA ACTCACTGCA GTGCTCTTCA TAGACACATC TTGCAGCATT 1440 TTTCTTAAGG CTATGCTTCA GTTTTTCTTT GTAAGCCATC ACAAGCCATA GTGGTAGGTT 1500 TGCCCTTTGG TACAGAAGGT GAGTTAAAGC TGGTGGAAAA GGCTTATTGC ATTGCATTCA 1560 GAGTAACCTG TGTGCATACT CTAGAAGAGT AGGGAAAATA ATGCTTGTTA CAATTCGACC 1620 TAATATGTGC ATTGTAAAAT AAATGCCATA TTTCAAACAA AACACGTAAT TTTTTTACAG 1680 TATGTTTAT TACCTTTGA TATCTGTTGT TGCAATGTTA GTGATGTTTT AAAATGTGAT 1740 GAAAATATAA TGTTTTTAAG AAGGAACAGT AGTGGAATGA ATGTTAAAAG ATCTTTATGT 1800 GTTTATGGTC TGCAGAAGGA TTTTTGTGAT GAAAGGGGAT TTTTTGAAAA ATTAGAGAAG 1860 TAGCATATGG AAAATTATAA TGTGTTTTTT TACCAATGAC TTCAGTTTCT GTTTTTAGCT 1920 AGAAACTTAA AAACAAAAAT AATAATAAAG AAAAATAAAT AAAAAGGAGA GGCAGACAAT 1980 GTCTGGATTC CTGTTTTTTG GTTACCTGAT TTCCATGATC ATGATGCTTC TTGTCAACAC 2040 CCTCTTAAGC AGCACCAGAA ACAGTGAGTT TGTCTGTACC ATTAGGAGTT AGGTACTAAT 2100 TAGTTGGCTA ATGCTCAAGT ATTTTATACC CACAAGAGAG GTATGTCACT CATCTTACTT 2160 CCCAGGACAT CCACCCTGAG AATAATTTGA CAAGCTTAAA AATGGCCTTC ATGTGAGTGC 2220 CAAATTTTGT TTTTCTTCAT TTAAATATTT TCTTTGCCTA AATACATGTG AGAGGAGTTA 2280 AATATAAATG TACAGAGAGG AAAGTTGAGT TCCACCTCTG AAATGAGAAT TACTTGACAG 2340 TTGGGATACT TTAATCAGAA AAAAAGAACT TATTTGCAGC ATTTTATCAA CAAATTTCAT 2400 AATTGTGGAC AATTGGAGGC ATTTATTTTA AAAAACAATT TTATTGGCCT TTTGCTAACA 2460 CAGTAAGCAT GTATTTTATA AGGCATTCAA TAAATGCACA ACGCCCAAAG GAAATAAAAT 2520 CCTATCTAAT CCTACTCTCC ACTACACAGA GGTAATCACT ATTAGTATTT TGGCATATTA 2580 TTCTCCAGGT GTTTGCTTAT GCACTTATAA AATGATTTGA ACAAATAAAA CTAGGAACCT 2640 GTATACATGT GTTTCATAAC CTGCCTCCTT TGCTTGGCCC TTTATTGAGA TAAGTTTTCC 2700 TGTCAAGAAA GCAGAAACCA TCTCATTTCT AACAGCTGTG TTATATTCCA TAGTATGCAT 2760 TACTCAACAA ACTGTTGTGC TATTGGATAC TTAGGTGGTT TCTTCACTGA CAATACTGAA 2820 TAAACATCTC ACCGGAATTC

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Sheet 2 of 2

SEQ ID No 2 Human FRP-4-Amino Acid sequence

MFLSILVALCLWLHLALGVRGAPCEAVRIPMCRHMPWNITRMPNHLHHSTQENAILA
IEQYEELVDVNCSAVLRFFFCAMYAPICTLEFLHDPIKPCKSVCQRARDDCEPLMKM
YNHSWPESLACDELPVYDRGVCISPEAIVTDLPEDVKWIDITPDMMVQERPLDVDCK
RLSPDRCKCKKVKPTLATYLSKNYSYVIHAKIKAVQRSGCNEVTTVVDVKEIFKSSS
PIPRTQVPLITNSSCQCPHILPHQDVLIMCYEWRSRMMLLENCLVEKWRDQLSKRSI
QWEERLQEQRRTVQDKKKTAGRTSRSNPPKPKGKPPAPKPASPKKNIKTRSAQKRTN
PKRV